Montana
Chronic Disease Prevention
& Health Promotion Bureau

Chronic Disease Surveillance Report

Back to School with Asthma

Eight percent of Montana school aged children (5-17 years) report having current asthma (approximately 10,500 children) (BRFSS, 2007-2010). Proper management and control of asthma is necessary in the school setting. Asthma is one of the leading causes of missed school days due to illness.[1] About 40% (95% confidence interval (CI) 30%-49%) of school aged children in Montana reported missing at least one school day in the last 12 months due to their asthma (ACBS, 2006-2010).

Ideally, schools should have school nurses to perform health-related tasks, but school nurses are often in short supply and may spread their time among multiple schools; one nurse may be responsible for thousands of students. National standards recommend one school nurse for every 750 students. In Montana, the nurse-to-student ratio is 1:1,451.[2] When school nurses are not available, often other office staff address student health needs.

Policies and procedures can assist children with asthma at school and ensure that all staff are trained to handle asthma in a school. Having individualized asthma action plans (AAP) on file and allowing children with asthma to carry and administer their own medication help children with asthma to be healthy and active at school. This report examines asthma among school aged children based on data from the Montana Asthma Call-Back Survey and the CDC School Health Profiles. It includes recommendations on addressing asthma in school aged children for school staff and for health care providers.

Before a child with asthma goes back to school parents or guardians should:

- Talk to the school nurse about the child's asthma
- Schedule an asthma check-up with the child's health care provider and update their asthma action plan (AAP)
- Provide a copy of the child's AAP and medical authorization form to the school
- Ensure the child is up to date on vaccinations, including influenza

Methods

The Behavioral Risk Factor Surveillance System (BRFSS) is a state-based survey of noninstitutionalized adults aged 18 years and older who are asked about health risks and behaviors. For respondents with children, a child is randomly selected and the respondent is asked about the asthma status of the child. If respondents indicate that their child had or currently has asthma, they are asked to participate in the Asthma Call-Back Survey (ACBS). If they agree, they are called again and asked more in-depth questions about their child's experience with asthma and their use of specific asthma medications.

Current asthma among children refers to a "yes" response to "Has a doctor, nurse, or other health professional ever said that the child has asthma?" and "Does the child still have asthma?"

Hospitalization data are from the Montana Hospital Discharge Data System (MHDDS) for 2002-2012 and include only records of Montana residents with a primary diagnosis of asthma (ICD-9-CM code 493). Hospital Discharge Data are made available courtesy of the Montana Hospital Association.

Montana Asthma Control Program

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Department of Public Health & Human Services

August 2013

Considerations for Students with Asthma

Inhaler use	• 30% (95% CI 21%-38%) of school aged children reported having asthma symptoms several times a week or continuously through the day. Students need a medical authorization form on file with the school to be able to administer their own medication. • To ensure correct delivery of medication, inhaler technique should be demonstrated and observed regularly by a health care professional as it is a perishable skill. About one out of six (18%, 95% CI 11%-26%) school age children in Montana reported that they either had not had inhaler technique taught to them or had not had their inhaler technique observed.
Asthma control	• Poor sleep quality and duration can negatively influence academic performance.[3] One in five (20%, 95% CI 12%-28%) school aged children in Montana reported night time awakenings due to asthma two or more times in the last month, an indication of uncontrolled asthma. • Interference with daily activities suggests uncontrolled asthma. Three out of five (60%, 95% CI 52%-69%) school aged children in Montana reported limiting their activities due to their asthma. Students should have appropriate medication available at school and be allowed to pretreat their asthma when engaging in exercise.
Respiratory infections	• Viral respiratory infections can exacerbate asthma.[4] Guidelines recommend annual influenza vaccination for people with asthma. In Montana, about half (53%, 95% CI 44%-61%) of school aged children received an influenza vaccine in the last year.

Data source: ACBS, 2006-2010

Asthma Triggers at School

September marks the beginning of the school year. On average, September has also been the month when the most asthma hospitalizations occur among school aged children (Figure). There also tends to be an increase in asthma hospitalizations among school aged children in the spring months.

Starting or returning to school can mean that a student will be exposed to new or recurring asthma triggers. Common asthma triggers at school are:

- Exhaust from buses and vehicles
- Tobacco and wildfire smoke
- Pets and pests
- Mold
- Strong odors, perfumes, or sprays
- Cold air and weather changes
- Allergens
- Respiratory infections

More information on asthma triggers in the school environment can be found at: http://asthmamontana.com

Figure. Average number of asthma hospitalizations per month among children aged 5-17 years, Montana Hospital Discharge Data System, 2002-2012

Status of School Health Policies in Montana[5]

Schools can take measures to make their environment safe and healthy for children with asthma. The School Health Profiles "is a system of surveys assessing school health policy and practices in states, large urban school districts, territories, and tribal governments." These surveys are conducted every two years to monitor the status of a variety of health management and education activities. Results from the 2010 School Health Profiles for Montana (Table) report that:

- only 12% of schools in Montana had a full-time registered nurse to provide health services in school. The national median was 44%.
- less than half (43%) of secondary schools reported having policies to permit students to carry and administer their own medications. Since 2007, the law (MCA 20-5-420) in Montana allows all children that are deemed capable and have proper paperwork on file to self-carry their asthma medications at school.
- less than half (41%) of secondary schools reported having AAPs on file for students with asthma. Every student with asthma should have an AAP on file at school.
- one in seven (14%) secondary schools reported that staff received annual training on responding to asthma symptoms. Statistically, in a classroom of 30 students, about 2-3 students will have asthma and many kinds of staff may have to help a student with asthma.

Table. Asthma-related school policies, School Health Profiles, CDC, Montana, 2010

	Percent	
	US median (range)	Montana
Schools with a full-time registered nurse that provides health services to students at school.	43.9 (4.9 – 99.4)	11.9
Schools implement a policy permitting students to carry and self-administer asthma medications by communicating the policy to students, parents, and families, and by designating an individual responsible for implementing the policy	52.5 (21.9 – 69.6)	42.9
Schools have an AAP on file for all students with known asthma	58.5 (31.0 – 87.6)	40.9
Schools require all school staff members to receive annual training on recognizing and responding to severe asthma symptoms	30.8 (11.6 – 65.8)	13.7
Schools provided parents and families with health information to increase parent and family knowledge of asthma	20.0 (6.6 – 37.3)	17.7

Note to our readers: If you would no longer like to receive this report or if you would like to receive it electronically, please email jfernandes@mt.gov or call 406-444-9155 to make your request.

References

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Clinical Recommendations

- Ensure students have an asthma action plan (AAP) for school and offer Medication Authorization forms to allow children capable of administering their own medication to do so at school
- Assess the student's asthma control and review inhaler technique before the new school year
- Promote influenza vaccination for students with asthma
- Encourage parents to discuss their child's asthma with the school nurse or office staff in charge of student health

Report Highlights: Back to School with Asthma

- September is the most common month for asthma hospitalization among school aged children in Montana.
- Three out of five (61%) school aged children report limiting their activities due to asthma.

See our website **http://asthmamontana.com** for more school-related asthma resources and trainings

4,500 copies of this public document were published at an estimated cost of $0.19 per copy, for a total cost of $855.00, which includes $855.00 for printing and $0.00 for distribution. This publication was supported by the Cooperative Agreement Number CDC-RFA-EH09-901 from the Centers for Disease Control and Prevention. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of the Centers for Disease Control and Prevention. Alternative accessible formats of this document can be found on our website at http://dphhs.mt.gov/asthma.